BOOK REVIEWS

THE WESTERN JOURNAL OF MEDICINE does not review all books sent to it by the publishers. A list of new books received is carried in the Advertising Section.

MGH TEXTBOOK OF EMERGENCY MEDICINE—Emergency Care as Practiced at the Massachusetts General Hospital—Editor: Earle W. Wilkins, Jr, MD, Associate Professor of Surgery, Harvard Medical School; Chief of Emergency Services and Visiting Surgeon, Massachusetts General Hospital; Associate Editors; James J. Dineen, MD, Assistant Professor of Medicine, Harvard Medical School; Associate Physician, Massachusetts General Hospital; and Ashby C. Moncure, MD, Assistant Clinical Professor of Surgery, Harvard Medical School; Associate Visiting Surgeon, Massachusetts General Hospital. The Williams & Wilkins Company, 428 E. Preston Street, Baltimore, MD (21202), 1978. 804 pages, with 308 illustrations, $59.95.

Emergency medicine has developed over the past decade reflecting sophisticated technologic achievements in American medicine and the public's awareness of these advances. The growth in this field also reflects changing patterns of medical practice with an emphasis on increasing specialization and less availability of around-the-clock medical services from physicians in practice. Funding of emergency medical services systems by the federal government has contributed a new area of responsibility to this developing area of medicine. Training programs, including both residencies and fellowships, are now available to those who wish to make emergency medicine their careers.

Although comprehensive reference textbooks in emergency medicine have been published abroad for a number of years, these texts have generally not met the needs of emergency physicians in the United States. Emergency medicine books in this country have largely assumed the form of practical handbooks and of monographs covering certain specific areas of the field, such as medical emergencies. In 1978 two comprehensive American works were published for the first time: *Principles and Practice of Emergency Medicine,* edited by George R. Schwartz and published by W. B. Saunders Company, and the *MGH Textbook of Emergency Medicine.*

Wilkins' textbook of emergency care as practiced at the Massachusetts General Hospital is divided into five sections. Section one covers pathophysiologic principles of life support including cardiopulmonary resuscitation and shock. Sections two and three review medical and surgical emergencies by organ system. Section four illustrates certain areas of emergency ward management and nursing responsibility. Section five is an appendix of invasive techniques commonly used in emergency departments.

The *MGH Textbook* is truly comprehensive but it avoids the pitfalls of attempting to be an in-depth reference work for each of the specialties which together constitute emergency medicine. Rather, the book concentrates on diagnosis and management of patients in the initial phase of care. The text is compact, the volume is easy to hold and the index is complete, making this an ideal reference work for use on emergency wards.

Since patients often arrive at the emergency department with symptoms and signs rather than diagnoses, a major section of the book should have been devoted to differential diagnoses of several common presenting problems (such as dyspnea or coma). More space also should have been alloted to special problems sometimes encountered by emergency physicians, such as bites and stings, radiation injury and near drowning. Given the prevalence of patients with dermatologic problems in an emergency department, a more comprehensive chapter of common dermatoses should have been included.

Management skills are neglected in most medical schools and even in many emergency medicine residencies; emergency physicians, however, often are responsible for managing departments with large budgets and numerous personnel. Unfortunately the section on administration in this text merely describes emergency management as it exists at Massachusetts General Hospital and does not attempt to teach some of the necessary skills. Financial aspects of an emergency department are not considered. Costs associated with increasing use of the emergency ward contribute to the escalating cost of health care in this country and this text might have pioneered in this area by addressing the issues of cost effectiveness and cost control.

The *MGH Textbook of Emergency Medicine* is well written and clinically sound. In conjunction with other comprehensive reference texts in the specialities, it will serve as a useful addition to the libraries of emergency physicians and physicians in specialties where patients with acute illnesses are frequently encountered.

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RESPIRATORY FUNCTION OF THE LUNG AND ITS CONTROL—Fred S. Grodins, MD, PhD, Professor and Chairman, Department of Biomedical Engineering, and Professor of Physiology; and Stanley M. Yamashiro, PhD, Associate Professor of Biomedical Engineering, University of Southern California, Los Angeles—in the series: MODERN CONCEPTS IN MEDICAL PHYSIOLOGY—Lysle H. Peterson, MD, Consulting Editor. Macmillan Publishing Co., Inc., 866 Third Avenue, New York City (10022), 1978. 148 pages, $13.50 (cloth), $9.95 (paperback).

Grodins and Yamashiro have undertaken an awesome task in a relatively short text: to describe the components of respiratory function of the lung *and* their control using a systems analysis approach. The overall behavior of a complex system is examined (largely mathematically and with block diagrams) in terms of "interacting unit processes." An introductory chapter describes the lung as a metabolic servomechanism designed to match gas exchange rates in lung and periphery while maintaining internal chemical concentrations of arterial oxygen, carbon dioxide and hydrogen ion constant. After a chapter on gas laws the authors use subsequent chapters to describe six "unit processes" of pulmonary ventilation, pulmonary diffusion, blood chemical processing, circulation tissue diffusion and tissue metabolism, finally incorporating the concept of negative feedback as a major factor in controlling respiratory function.

The chapter on gas laws contains an error in one formula, describes body plethysmography in a single paragraph, and assumes an elementary knowledge of calculus. The problem set is helpful.

A chapter on the ventilatory apparatus describes lung volumes, flow rates, elastic and resistive properties (including Poiseiulles law and the Reynolds number),

respiratory work, surface tension, frequency dependence of resistance and compliance, the flow volume curve, and closing volume. Three "electrical analogs" of the ventilatory apparatus are diagrammed that may elucidate concepts for those familiar with electrical circuitry. Chapters on the pulmonary gas exchanger, tissue gas exchange, and blood buffers and acid base balance also describe many important concepts mathematically.

The final chapter, control of pulmonary ventilation, describes how alveolar ventilation is affected by levels of arterial oxygen, carbon dioxide, and pH emphasizing the servomechanism concept.

The authors do succeed in analyzing respiratory function of the lung and its control using the systems analysis approach although discussion of the unit processes are brief. The historical development of important physiological concepts are well referenced at the end of each chapter.

Because of the brief and largely analytical development of many concepts this book will be of most use to those already familiar to some degree with pulmonary physiology and to those who understand concepts mathematically without extensive written elaboration. This text will be of less interest to an average medical student or practicing physician than to a biomedical engineer or specialist in a pulmonary related field.

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TEXTBOOK OF GERIATRIC MEDICINE AND GERONTOLOGY—Second Edition—Edited by J. C. Brocklehurst, MD, MSc, FRCP (Glas and Ed), Professor of Geriatric Medicine, University of Manchester. Churchill Livingstone—Medical Division of Longman Inc., 19 West 44th St., New York City (10036), 1978. 838 pages. $65.00.

It is extraordinarily difficult to revise the standard work in any field. Since it appeared in 1973, Professor Brocklehurst's book has been a mainstay of geriatric teaching in England. It now reappears after five years with additional chapters, including important sections on cerebral effects of drugs and on geriatric anesthesia, and with rewritten sections on biological gerontology, thyroid disease, stroke and social roles of the elderly. In a field such as the biology of aging, every textbook goes to press with the certainty of omissions in such a rapidly developing subject—the biological and theoretical reviews here give excellent summaries of the single-process models of aging in vogue around 1976, but just missed the appearance of a vogue for software theories based on the hypothalamic lifespan clock. This is of little importance to clinicians, however, because what they will derive from a book such as this is the general flavor of fundamental age research. The major concerns are excellently covered, system by system. The main areas of geriatric special knowledge—differences in presentation from textbook "adult" patterns, nonspecific presentation of specific disease, avoidance of iatrogenic mischief with common drugs, and above all the essential social concerns for decent geriatric medicine ranging from the abandonment of the folklore of decrepitude to the provision of day-centers and in-home services—are dealt with in detail. Special problems, particularly the management of incontinence, on which Brocklehurst himself has done pioneer work, are also first class. The weakest section—that on psychiatry—should be revised for the next edition to cover a more systematic account of "senile" dementias and an introduction to nonthreatening mental testing: the present chapter, from the 1973 edition, does not clearly distinguish multiembolic from Alzheimer type dementias (and, incidentally, contains the statement that "the vast majority of males" have become impotent by age 75, which is not borne out by studies). Part of this deficiency is made up in other chapters on neurology and on experimental drugs.

In spite of some valiant efforts in various centers, geriatrics in America still presents a yawning gap in most student and postgraduate training. There has been no American book of equal scope since Cowdry, and there is still none of comparable quality. Neither of the two most used textbooks of medicine refer to geriatric medicine. In view of the demographics of modern practice, Brocklehurst's book, together with Hodkinson's *Common Symptoms of Disease in the Elderly*, ought to be obligatory prelicensure reading for students both until and after they are finally exposed to dedicated geriatricians as teachers, and should be on the shelves of every practitioner, regardless of specialty, who does not confine his ministrations to babies.

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THYROID CANCER—Editor: Larry D. Greenfield, MD, Director, Department of Nuclear Medicine; Co-Director, Thyroid Oncology Service; Radiation Oncologist, City of Hope National Medical Center, Duarte, California. CRC Press, Inc., 2255 Palm Beach Lakes Blvd., West Palm Beach, FL (33409), 1978. 267 pages, $64.95, outside U.S. $74.95.

Thyroid cancer is not a common disease and may be underestimated because of its indolent growth, or overwhelming in the rare but rapidly fatal illness. Dr. Greenfield has produced a small but comprehensive and authoritative book on thyroid cancer which will be very helpful to those clinicians who manage such patients. He has assembled an excellent group of specialists who review in succinct chapters the salient features. Thus, there are chapters on embryology, pathophysiology and diagnostic techniques, and separate discussions of the management of the various forms of the disease. Many new aspects are emphasized: for example, the differences in the development of the parafollicular cells (calcitonin secreting) from thyroid cells (thyroglobulin secreting) as noted on electron microscopy. There is an excellent review of the problem of radiation-induced thyroid cancer, by Drs. Hempleman and Furth. Sections on management of thyroid cancer are clinically oriented and very helpful. The indication for and results of radiation therapy and chemotherapy are carefully reviewed and these modalities are put into proper perspective.

As in any text with multiple authors there is some overlap; for example, the use of thyroglobulin and calcitonin as markers for differentiated thyroid cancer is mentioned in several chapters. The excellent photomicrographs of thyroid pathology by Dr. LiVolsi would have been much more effective in color. But generally, this is a fine book, authoritative and informative, short and well written. It has a good index and each chapter has an excellent and current bibliography. It will be of great value to endocrinologists, internists and surgeons, and others interested in the present status of the diagnosis and management of thyroid cancer.

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